

THE STATUS OF THE SIBLING SPECIES *GLAUCOPSYCHE (MACULINEA) ALCON* AND *G. (M.) REBELI* (LEPIDOPTERA, LYCAENIDAE) IN LITHUANIA

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Introduction

The first records concerning *Glaucopsyche (Maculinea) alcon* (Denis & Schiffermüller 1775) living in Lithuania appeared in Lithuanian entomological literature in 1998 (Ivinskis, 1998). It was stated that „according to the unproved data“ the species was found in Lazdijai, Jurbarkas administrative districts and in the Curonian Spit. In the „Action plan for *Maculinea* butterflies in Europe“ (Munguira & Martin, 1999) the same author (Ivinskis) reported that: „*M. alcon* has only been recorded from one locality near Jurbarkas. The area was afforested and no recent information is available of the presence of the species in the area“. In the latest annotated catalogue of Lithuanian Lepidoptera *M. alcon* was assigned as rare species found in Jurbarkas (Kalviai locality), Lazdijai and Vilnius (Dūkštos locality) districts (Ivinskis, 2004). However, in the book „Butterflies of Lithuania“ it was once more stated that „according to the unproved data“ *M. alcon* was found in Lazdijai, Jurbarkas districts and in the Curonian Spit (Ivinskis & Augustauskas, 2004). The Vilnius district (Dūkštos locality) was mentioned once again. *Glaucopsyche alcon* became a protected insect species in Lithuania since 2003. In the latest issue of the Lithuanian Red Data Book (Rašomavičius, 2007) P. Ivinskis mentioned the species again from Jurbarkas, Lazdijai and Vilnius administrative districts. The doubt that the reported specimens could belong to *Glaucopsyche rebeli* was raised.

The only report on the finding of *Glaucopsyche (Maculinea) rebeli* (Hirschke 1904) belongs to R. Kazlauskas (Kazlauskas, 2004). Four specimens of *G. rebeli* were found in a locality near Seredžius (Jurbarkas administrative district) in 2004. Females were observed laying eggs on *Gentiana cruciata*.

The aim of this study was to check all the hitherto mentioned localities of *Glaucopsyche (Maculinea) alcon* and *G. (M.) rebeli* in order to reveal the real status of these species in Lithuania. It was complicated as no exact localities have ever been published.

Material and Methods

The material was gathered by the author of this report in the Vilnius, Kaunas and Jurbarkas administrative districts in 2002–2007. Some studies were carried out together with the Polish entomologists Anna Stankiewicz and Marcin Sielezniow in June, 2005.

Results and Discussion

The locality Kalviai (Jurbarkas administrative district) was visited three times. For the first time it was visited on the 20th of June, 2002. The exact place was searched according to the verbal reference of V. Pacevičius who found *Glaucopsyche alcon/rebeli* in that place on the 6th of July, 1987 (unpublished data, checked specimens in the personal collection of V. Pacevičius). A small population of *G. alcon/rebeli* was found in the valley of the river Armena (55°44'25,0"N, 23°21'15,7"E). Six specimens were observed flying in a meadow surrounded by man-planted pine forrest in the vicinity of growing *Gentiana cruciata*. Neither larva in excavated *Myrmica* nests, nor butterflies or eggs of *Glaucopsyche (Maculinea)* species were found during the second visit to the site on the 16th of June, 2005. The site was revisited on the 5th of July, 2005, and approximately 300–400 eggs of *Glaucopsyche* sp. were observed on flowering *Gentiana cruciata* plants, what indicated that they belong to the species *G. rebeli*. The site was under the threat of being overgrown by pine trees and tall grass communities.

The locality Dūkštos (Vilnius administrative district) was visited for the first time on the 15th of June, 2005. The site was searched for *Gentiana cruciata*. Four patches of this plant were found in the valley of the river Dūkšta. However, neither larva in *Myrmica* nests, nor butterflies of *Glaucopsyche* species were found. The site was revisited on the 2nd of July, 2005, and approximately 700 of eggs on *Gentiana cruciata* and about 20 butterflies of *Glaucopsyche (M.) rebeli* were found in all four patches with gentians. Further survey on the distribution of *Glaucopsyche (M.) rebeli* in this region was carried out in 2007. Gentians were searched in the upper valley of the river Dūkšta and in the valley of the river Neris. Many patches with gentians were found, but only two new sites with *Glaucopsyche (M.) rebeli* populations were registered. For now, four more or less separated populations of *G. (M.) rebeli* in the Neris Regional Park or in the close vicinity of the park are present, each includes few subpopulations on different patches of gentians. These can be named as Bradeliškės I (54°49'33,7"N, 24°57'08,0"E), Bradeliškės II (54°49'28,0"N, 24°56'53,6"E), Rusėnai (54°50'01,3"N, 24°58'09,8"E) and Bielazariškės (54°49'37,3"N, 24°54'16,6"E) populations. Bradeliškės I site consists of four to five small patches of gentians (some tens of plants), Bradeliškės II site consists of two to three patches of gentians (up to 20 plants), Rusėnai site consists of three to four patches of gentians (few hundreds of plants), Bielazariškės site consists of two patches of gentians (1000–2000 of plants). All sites are situated on open slopes of southern, south-eastern or south-western exposure. Bradeliškės I and Rusėnai sites are affected by tall grass communities. The Bielazariškės population of *G. (M.) rebeli* is the largest one. A few thousands of eggs on *Gentiana cruciata* were observed on the 5th of July, 2007.

The locality Seredžius (Jurbarkas administrative district) was visited for the first time on the 17th of June, 2005. Four larva of *Glaucopsyche (M.) rebeli* in the nests of *Myrmica schencki* and three imagos were found in the valley of the rivulet Dubausis (Dubausis I, 55°05'12,7"N, 23°24'38,7"E) (Stankiewicz *et al.*, 2005). The site was revisited on the 5th of July, 2005, and approximately 2200 of eggs of *G. (M.) rebeli* on *Gentiana cruciata* were found. Gentians were searched in the lower part of the valley of the rivulet and another small population of *G. (M.) rebeli* (approximately 400 eggs) was found close to the first one (Dubausis II, 55°05'01,9"N, 23°24'36,3"E). Both sites are located on open slopes with southern exposure.

A new locality with *G. (M.) rebeli* was found in the Upytė rivulet valley near Senieji

Bernatoniai village in the Nevėžis landscape preserve (54°59'12,0"N, 23°46'27,0"E) (Kaunas administrative district). On the 8th of August, 2007, approximately 20 eggs of *G. (M.) rebeli* on *Gentiana cruciata* were found.

One more population of *G. (M.) rebeli* was found in Lapės geomorphological preserve (54°59'41,8"N, 24°01'03,5"E) (Kaunas administrative district) (Ūsaitis, pers. comm.). Adults were observed in the vicinity of *Gentiana cruciata* plants on the 30th of June, 2007 (~10 specimens) and on the 4th of July, 2007 (four specimens).

No reliable published data, nor specimens in collections can prove the findings of *G. (M.) alcon* in the Lazdijai administrative district and in the Curonian Spit. Moreover, neither *Glaucopsyche (M.) alcon*, nor *G. (M.) rebeli* populations could be present in the Curonian Spit, as their food plants, *Gentiana pneumonanthe* and *G. cruciata* have never been found in this area (Rašomavičius, 2007). The records of *G. (M.) alcon* from the Curonian Spit should be regarded as misidentifications of *Glaucopsyche (Maculinea) teleius*, as the latter species may be found in the Curonian Spit. Consequently, references to these localities should not be used in further publications.

Conclusions

1. All previous records of *Glaucopsyche (Maculinea) alcon* (Denis & Schiffermüller 1775) from Lithuania should be treated as *Glaucopsyche (Maculinea) rebeli* (Hirschke 1904) as all populations are associated with *Gentiana cruciata*. There are no proved findings of *Glaucopsyche (Maculinea)* on *G. pneumonanthe* in Lithuania.

2. There are nine approved populations of *Glaucopsyche (Maculinea) rebeli* in five localities of Lithuania at this moment (Fig. 1).

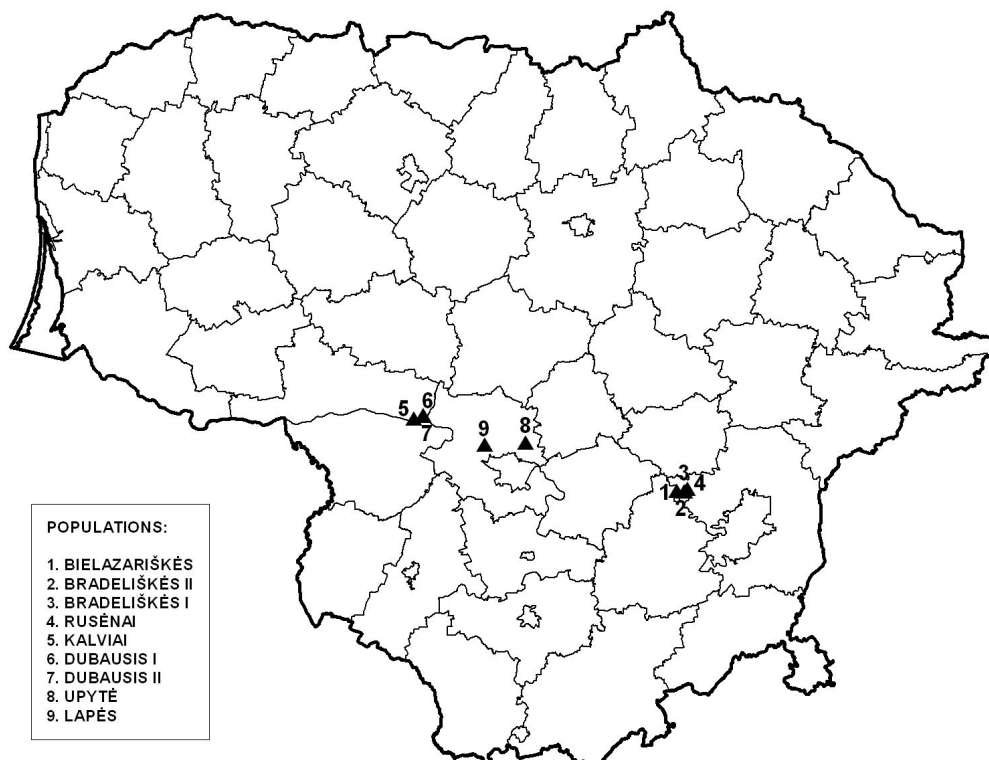


Figure 1. Localities of *Glaucopsyche (Maculinea) rebeli* populations in Lithuania.

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Rūšių-antrininkų *Glaucopsyche* (*Maculinea*) *alcon* ir *G. (M.) rebeli* (*Lepidoptera*, *Lycaenidae*) statusas Lietuvoje

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Santrauka

Straipsnyje pateikiami autoriaus apibendrinti duomenys apie dviejų *Glaucopsyche* (*Maculinea*) genties melsvių (*Lepidoptera*, *Lycaenidae*) rūšių – *G. rebeli* ir *G.alcon* statusą Lietuvoje. Nustatyta, kad Lietuvoje iki šiol buvo aptikta tik viena rūšis *G. rebeli*, kurios biologija susijusi su melsvaisiais gencijonais (*Gentiana cruciata*). Pateikiama informacija apie visas patikrintas *G. rebeli* radvietes Lietuvoje, stebėjimo datos, radviečių koordinatės, paplitimo Lietuvoje žemėlapis, aptartos rūšies buveinėms iškilusios grėsmės.

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Š Svitra G (2008) The status of the sibling species *Glaucopsyche* (*Maculinea*) Hull DL (1976) Are species really individuals? *Systematic Zoology* 25: 174–180. Alcon and G. (M.) Rebeli (Lepidoptera, Lycaenidae) in Lithuania. *New 191. and Rare for Lithuania Insect Species* 19: 49–52. Hull DL (1978) A matter of individuality.